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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/718,378	11/24/2000	Yuichi Kusumoto	070639/0132	3709
22428	7590	09/20/2004		
FOLEY AND LARDNER SUITE 500 3000 K STREET NW WASHINGTON, DC 20007			EXAMINER LEVITAN, DMITRY	
			ART UNIT 2662	PAPER NUMBER

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/718,378

Applicant(s)

KUSUMOTO, YUICHI

Examiner

Dmitry Levitan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/5</u> . | 6) <input type="checkbox"/> Other: ____. |

Drawings

1. The drawings are objected to because of typographical error in block 811 of Fig. 1. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The disclosure is objected to, because abbreviations or acronyms ERR, page 24 is cited throughout the specification without explanation. Applicant should provide a full explanation for the acronyms at least at their first occurrence in the specification.

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Claim Objections

3. Claim 15 is objected to because of the following informalities: 'buffers each storing a cell' is a typographical error. Examiner believes that the claim should be written "buffers each storing cells", as one cell cannot cause a buffer overflow. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 6, 8, 11 and 21, 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification does not provide sufficient details to enable a skilled in the art to make and use the invention because it does not adequately describe the following:

Regarding claims 6 and 21, how to reset a weight representing the priority mode of said buffer, when the capacity of the buffer exceeding said first threshold reaches a second threshold.

Examiner believes that the resetting should occur when the capacity of the buffer drops bellow the first threshold, as the buffer congestion diminishes according to the specification.

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The specification does not provide enough details about the structure and operation of the elements associated with the above identified claimed features to enable one skilled in the art to make and use the invention without undue experimentation.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-14, 17, 19, 22-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 limitation "the reading rate for each of said category buffers at a cell reading time" is unclear, because it is not understood what cell reading time means in relation with the reading rate.

Claim 5 limitation "a priority mode representing a weight of a reading rate" is unclear, because it cannot be understood as written.

Claims 13, 14, 27 and 28 recite the limitation "within an area of said cell" in line 3. It is unclear what "area of said cell" means.

Claims 9 recite the limitation "said first or second controller" in line 2. There is insufficient antecedent basis for second controller limitation in the claim.

Claim 17 limitation "a priority after change of said category buffer and a priority with initial value" is unclear, because it cannot be understood as written.

Claim 24 limitation "a priority after change of said buffer which has exceeded said first threshold and priority with an initial value" is unclear, because it cannot be understood as written.

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Claims 7, 8, 22 and 23 limitation "when the capacity of a buffer exceeding said first threshold reaches a third threshold value being less than said first threshold" is unclear, because if the capacity of the buffer is larger than first threshold, it cannot reach a third threshold that is less than first threshold.

Claims 3 and 9 limitation "wherein a priority mode changed by said controller and initial priority mode before changing are informed a maintenance terminal", is unclear, because it cannot be understood as written.

Claim 4 limitation "a second resetting unit" is unclear, because none of claims 1 or 4, mention a first resetting unit.

Claims 12, 19 and 26 recite the limitation "said maintenance terminal" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 25 limitation "when the buffer exceeding said first threshold stops exceeding a second threshold" is unclear, because the fact of the buffer exceeding a second threshold was not a part of the claimed method.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1, 5, 13-15, 20, 27 and 28 are rejected (as understood) under 35 U.S.C. 103(a) as being unpatentable over Lu (US 6,480,911).

9. Regarding claims 1 and 15, Lu substantially teaches the limitations of claims 1 and 15.

Lu teaches a packet disposal avoidance system and method in a buffer (level 2 buffers on Fig. 5 and 4:40-60), including category classified buffers in a switch, said category buffers each storing packets, said buffer reading out said packet (final class queues 440-444 on Fig. 5 storing packets for outputting/reading out to the end users 4:1-9), comprising:

A weight representing a priority that determines the reading rate for each of the category buffers at a packet reading time (second weight set 4:55-60 set by controller 502 on Fig. 9 and 11:13-16);

A reader for laying out allocation in a time division mode according to said priority mode, said allocation being read out of each of said category buffers, when a packet in a buffer is read out, and reading out said allocation in a round-robin format (controller 502 moving packet according to the weight scheduling scheme 11:17-33);

A detector for detecting packet disposal of said buffer (controller 502 setting a flag on packet dropping 11:33-42); and

A controller for changing to higher weight of the priority mode in a buffer in a packet disposal state detected by said detector (controller 502 updating the weights 11:42-43 and 1:50-67).

Lu does not teach using ATM cells. Official notice is taken that using ATM cells is well known and expected in the art.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ATM cells in the system of Lu to make the system compatible with widely used ATM networks.

10. Regarding claims 5 and 20, Lu substantially teaches the limitations of claims 5 and 20.

Lu teaches a packet disposal avoidance system in a buffer (level 2 buffers on Fig. 5 and 4:40-60), including category classified buffers in a switch, said category buffers each storing packets, said buffer reading out said packet (final class queues 440-444 on Fig. 5 storing packets for outputting/reading out to the end users 4:1-9), comprising:

A weight representing a priority that determines the reading rate for each of the category buffers at a packet reading time (second weight set 4:55-60 set by controller 502 on Fig. 9 and 11:13-16);

A reader for laying out allocation in a time division mode according to said priority mode, said allocation being read out of each of said category buffers, when a packet in a buffer is read out, and reading out said allocation in a round-robin format (controller 502 moving packet according to the weight scheduling scheme 11:17-33);

A detector for detecting the fact that the capacity of said buffer exceeds a first threshold (controller 502 readjusting the weights if the soft buffer threshold is exceeded 11:33-36); and

A first controller for changing to higher weight of the priority mode in a buffer which exceeds the threshold detected by said detector (controller 502 updating the weights 11:42-43 and 9:33-37).

Lu does not teach using ATM cells. Official notice is taken that using ATM cells is well known and expected in the art.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to use ATM cells in the system of Lu to make the system compatible with widely used ATM networks.

11. Regarding claims 13, 14, 27 and 28, Lu teaches a system and method wherein said category represents the type of QoS class in accordance with a header and a path set in the area (establishing classes based on traditional QoS parameters like delay, quality or error rate 1:20-33, in accordance with the packet header class field Fig. 7 and 5:57-67 and packet destination 4:1-9).

12. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu in view of Hluchyj (US 5,231,633).

Lu substantially teaches the limitations of claims 1 and 15.

Lu does not teach returning to an initial state after the end of the buffer overload.

Hluchyj teaches returning to an initial state after the end of buffers overload (Fig. 8 and 9:55-59).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add returning to an initial state after the end of buffer overload of Hluchyj to the system of Lu to improve the system long term rate distribution fairness between queues.

13. Claims 3, 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu in view of Tzeng (US 6,438,135).

Lu substantially teaches the limitations of claims 1, 5 and 15.

Lu does not teach informing a maintenance terminal before changing a priority mode for a queue.

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Tzeng teaches informing a maintenance terminal before changing a priority mode for a queue (providing information to the network administrator for deciding what changes to make 5:30-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add informing a maintenance terminal before changing a priority mode for a queue of Tzeng to the system of Lu to improve the system management control.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Giroux	US006317416B1	Fair queue servicing using dynamic weights.
Bennet	US006412005B1	Method and apparatus for providing service to entities.
Caldara	US005872769A	Linked list structures for control in ATM switch.
Attanasio	US005918017A	System and method for computer clusters.
Soumiay	US005696764	ATM exchange for monitoring congestion.
Fan	US006408005B1	Dynamic rate control scheduler for ATM networks.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Levitan whose telephone number is (571) 272-3093. The examiner can normally be reached on 8:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Dmitry Levitan
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09/09/04



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